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Superintendent of Schools

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Summer Math Assignment:

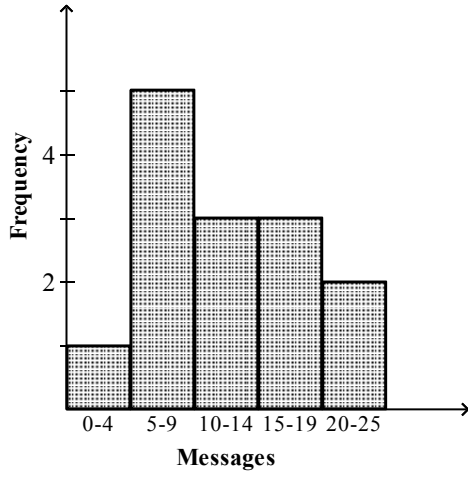
The Passaic High School Mathematics Department requests all students to complete the summer assignment. Students must show work on white lined paper and return the assignment to their math teacher by Monday September 11, 2017. Assessment on the summer assignment will be administered the first week of school.

Thank you and have a great summer.

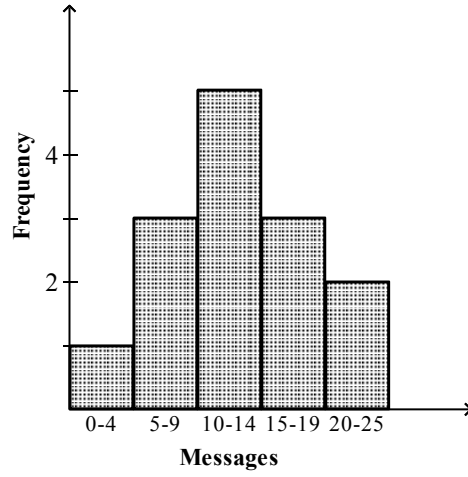
5. The data below shows the average number of text messages a group of students send per day. What is a histogram that represents the data?

20 5 8 22 10 1 7 15 16 12 15 6 13 8

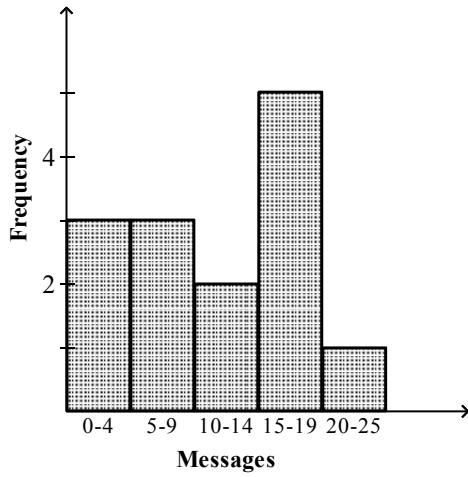
a.



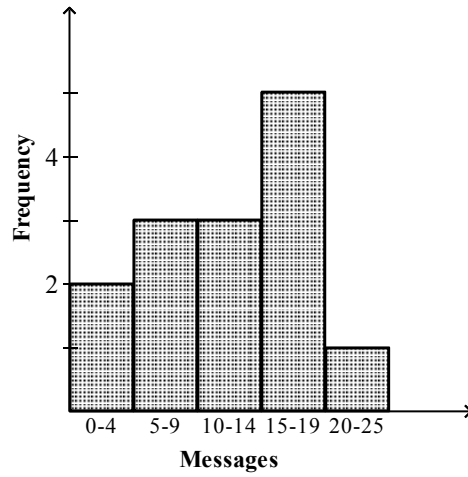
c.



b.

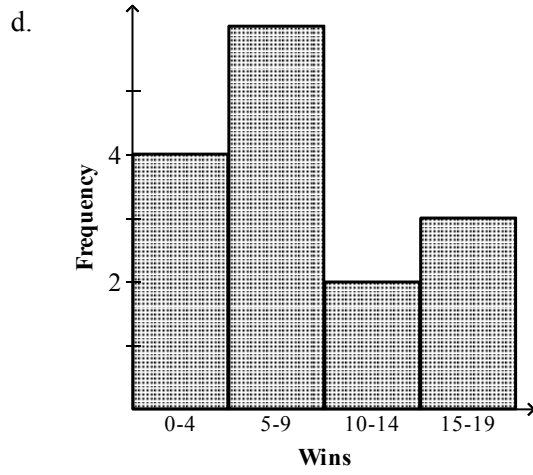
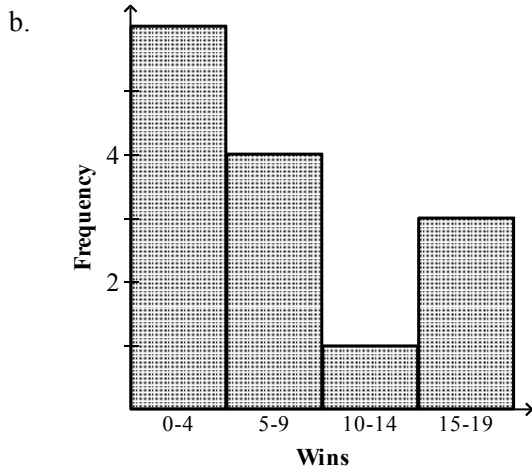
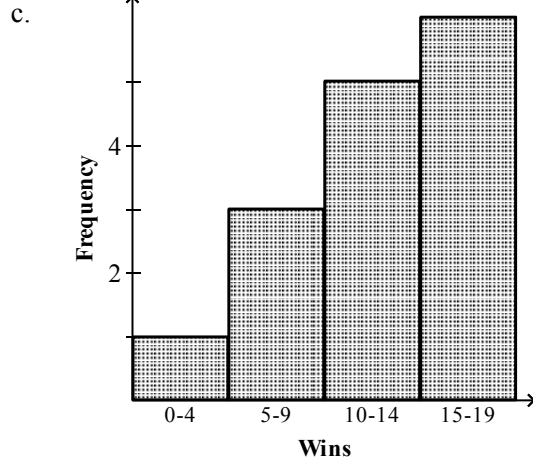
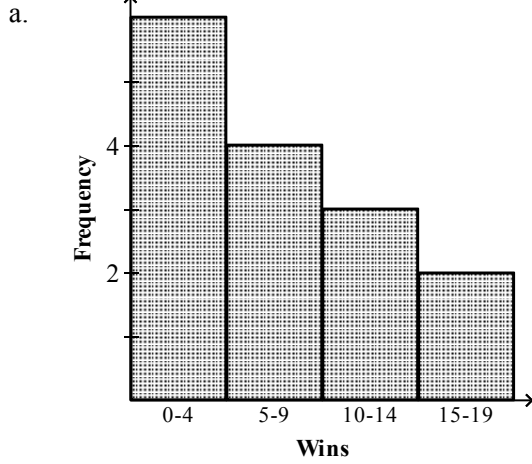


d.



6. The data below show the number of games won by a football team in each of the last 15 seasons. What is a histogram that represents the data?

3 4 8 12 7 2 1 15 16 6 10 13 4 1 5



7. The data below shows the number of kilowatt hours of electricity used by the tenants of a small apartment building in a given month. What is a cumulative frequency table that represents the data?

80 85 86 90 96 75 66 70
 99 65 70 99 70 73 64 92
 72 81 88 91 93 69 77 82

a.

Kilowatt Hours	Frequency	Cumulative Frequency
60 – 69	7	24
70 – 79	4	24
80 – 89	5	24
90 – 99	6	24

b.

Kilowatt Hours	Frequency	Cumulative Frequency
60 – 69	4	4
70 – 79	6	10
80 – 89	7	17
90 – 99	7	24

c.

Kilowatt Hours	Frequency	Cumulative Frequency
60 – 69	7	7
70 – 79	4	11
80 – 89	7	18
90 – 99	6	24

d.

Kilowatt Hours	Frequency	Cumulative Frequency
60 – 69	4	4
70 – 79	7	11
80 – 89	6	17
90 – 99	7	24

8. Suppose that to make the golf team you need to score no more than 81 on average over 5 games. If you scored 75, 74, 100, and 69 in your first 4 games what is the highest score you can shoot in your 5th game and still make the team?

a. 88

c. 87

b. 85

d. 89

9. Find x if the average of 19, 15, 12, 12, and x is 18.

a. 34

c. 30

b. 33

d. 32

10. The table shows the number of hours that a group of students spent studying for the SAT during their first week of preparation. The students each add 4 hours to their study times in the second week. What are the mean, median, mode, and range of times for the second week?

Student	Hours
Bob	19
James	10
Karen	15
Rosario	17
Antoine	10
Julio	16
Maria	13

a. mean = 14
median = 19
mode = 18.3
range = 9

c. mean = 19
median = 18.3
mode = 14
range = 0.7

b. mean = 18.3
median = 19
mode = 14
range = 9

d. mean = 18.3
median = 19
mode = 14
range = 0.7

11. The table shows the number of hours that a group of friends spent in their first week training to run a marathon. In the second week, they each add 5 hours to their training times. What are the mean, median, mode, and range of times for the second week?

Runner	Hours
Jeff	9
Mark	5
Karen	5
Costas	5
Brett	7
Nikki	6
Jack	7

a. mean = 10
median = 11
mode = 11.3
range = 4

c. mean = 11.3
median = 11
mode = 10
range = 4

b. mean = 11
median = 11.3
mode = 10
range = 0.3

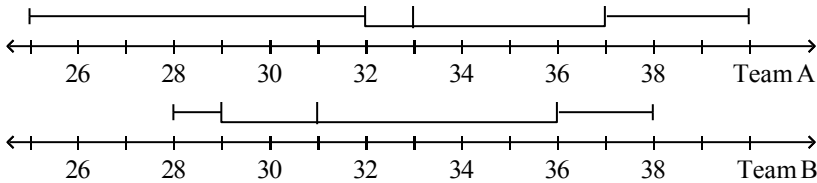
d. mean = 11.3
median = 11
mode = 10
range = 0.3

12. The salaries of seven employees of a small company are \$41,000, \$50,000, \$42,500, \$35,000, \$50,000, \$44,000, and \$48,500. Each of the employees receives a 4% raise. What are the mean, median, mode, and range of their new salaries?
- | | |
|---|---|
| a. mean = 46,205.71
median = 45,760
mode = 52,000
range = 15,600 | c. mean = 52,000
median = 45,760
mode = 46,205.71
range = 15,600 |
| b. mean = 45,760
median = 46,205.71
mode = 52,000
range = 445.71 | d. mean = 46,205.71
median = 45,760
mode = 52,000
range = 445.71 |

What are the minimum, first quartile, median, third quartile, and maximum of the data set?

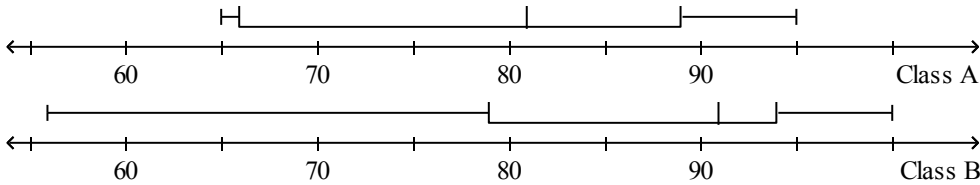
13. 18, 20, 11, 10, 8, 6, 12, 4
- minimum 4; first quartile 7; median 10.5; third quartile 17.5; maximum 20
 - minimum 4; first quartile 5.5; median 12.75; third quartile 15; maximum 20
 - minimum 4; first quartile 8.75; median 12.75; third quartile 17.5; maximum 20
 - minimum 4; first quartile 7; median 10.5; third quartile 15; maximum 20

14. The two box-and-whisker plots below show the times in seconds for two teams in a 100 m dash. What do the interquartile ranges tell you about the two teams?



- Team A has more consistent times
- Team B has more consistent times
- Overall team A is faster than team B
- Overall team B is faster than team A

15. The two box-and-whisker plots below show the scores on a math exam for two classes. What do the interquartile ranges tell you about the two classes?



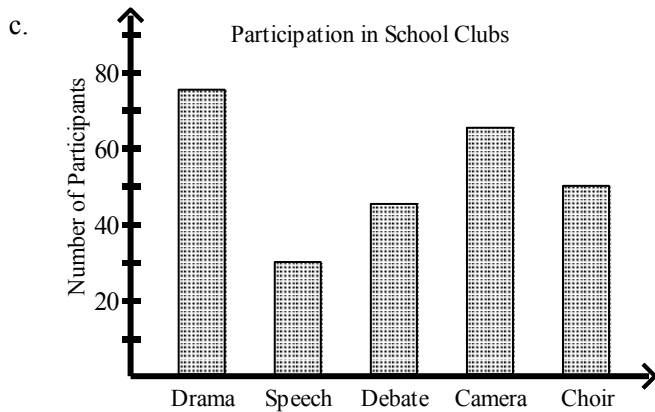
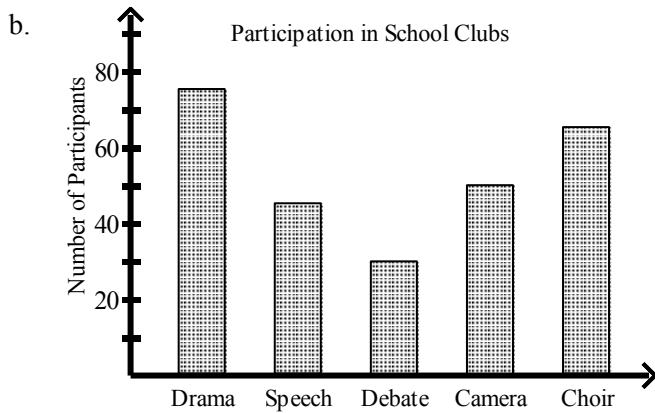
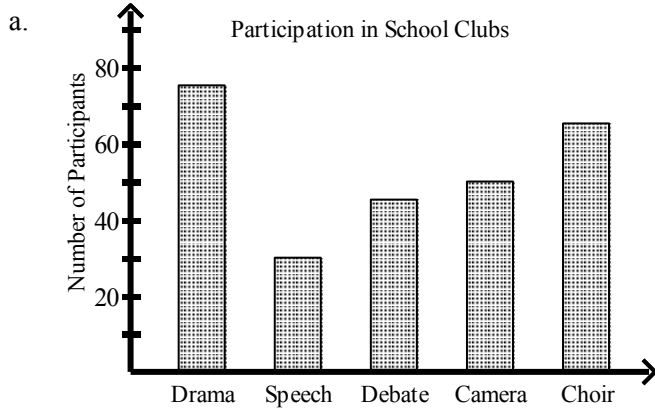
- Class A has more consistent scores
- Class B has more consistent scores
- Overall class A performed better than class B
- Overall class B performed better than class A

Is each data set *qualitative* or *quantitative*?

16. favorite sports teams
- qualitative
 - quantitative

29. Which of the following bar graphs shows the number of participants in various school clubs as listed below?

Drama	Speech	Debate	Camera	Choir
75	30	45	50	65



d. none of these

30. Which data set has mode 10?

a. 14, 2, 37, 14, 10, 28

c. 5, 10, 33, 33, 10, 10

b. 12, 7, 11, 29, 10, 12

d. 4, 18, 11, 17, 10, 11

31. Which data set has median 47?

a. 32, -3, 19, 8, 22

b. 37, 51, 55, 47, 27

c. 39, 30, 15, 21, 43

d. 14, 19, 3, -7, 27

32. Which data set has mean 6.92?

a. 5.1, 8.3, 4.1, 6.4, 9.5

b. 5.4, 7.7, 9.3, 4.2, 7.1

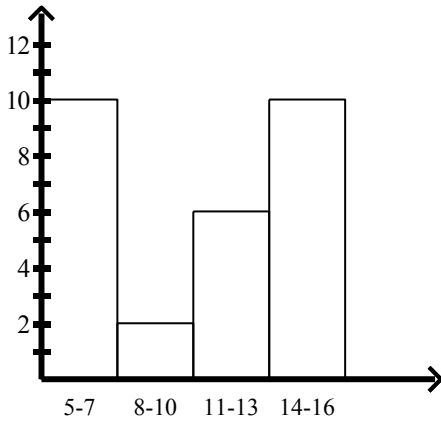
c. 9.4, 8.1, 4.5, 6.6, 9.6

d. 6.1, 7.5, 7.3, 8.8, 4.9

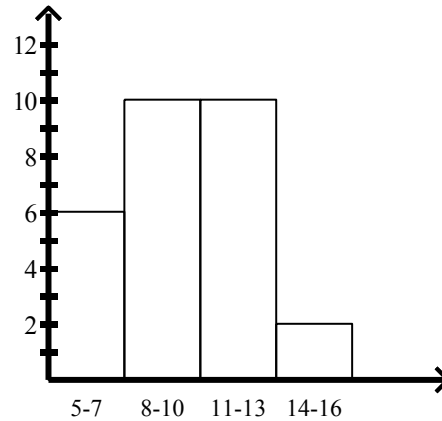
33. Which histogram uses the data in the table below?

Class Interval	Frequency
5-7	10
8-10	2
11-13	6
14-16	10

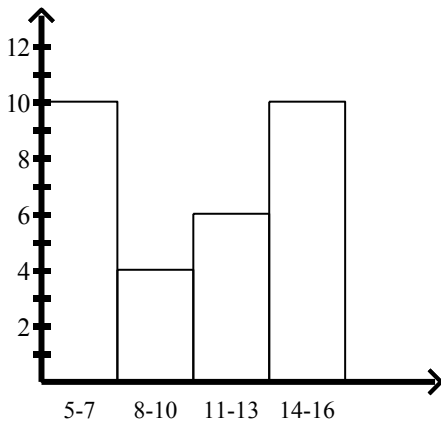
a.



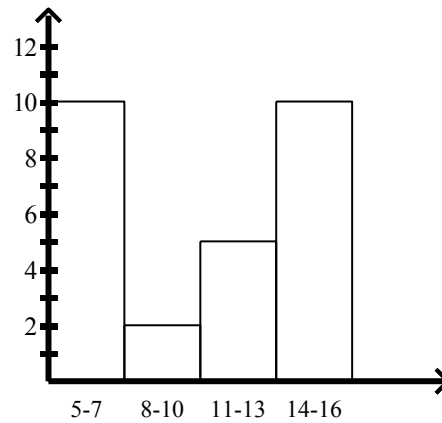
c.



b.

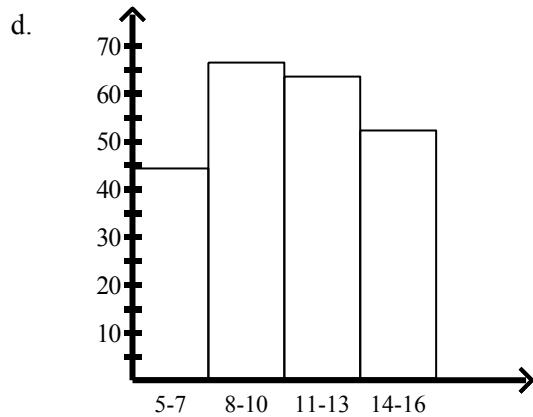
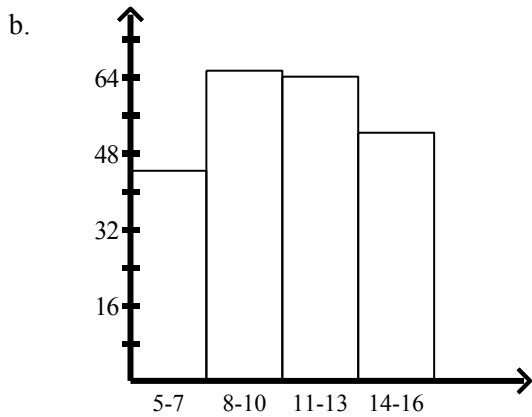
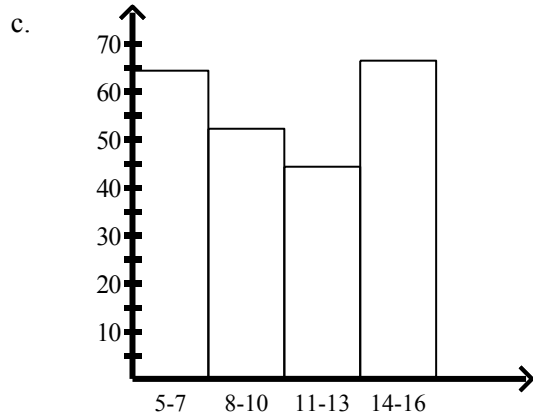
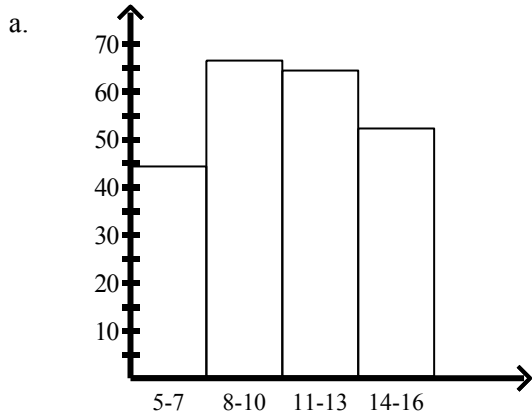


d.



34. Which histogram uses the data in the table below?

Class Interval	Frequency
5-7	44
8-10	66
11-13	64
14-16	52



What is the expression in simplest form.

35. $\frac{-2x - 10}{x + 5}$

- a. 2
- b. 5
- c. -2
- d. -5

36. $\frac{\alpha + 2}{8\alpha + 16}$

- a. $\frac{1}{8}$
- b. 8
- c. -8
- d. $-\frac{1}{8}$

Perform the indicated operation.

_____ 37. $\frac{5x}{13} - \frac{7x}{13}$

a. $-\frac{12x}{13}$

b. $\frac{35x}{13}$

c. $-\frac{2x}{13}$

d. $-\frac{35x}{13}$

_____ 38. $\frac{14}{5x} + \frac{14}{6x}$

a. $\frac{14}{11x}$

b. $\frac{28}{11x}$

c. $\frac{14}{15x}$

d. $\frac{77}{15x}$

_____ 39. $\frac{8x}{3} \cdot \frac{7x}{4}$

a. $\frac{14x^2}{3}$

b. $\frac{53x^2}{12}$

c. $\frac{53x}{12}$

d. $\frac{14x}{3}$

_____ 40. $\frac{5x}{7} \div \frac{2x}{6}$

a. $\frac{5x^2}{21}$

b. $\frac{15x^2}{7}$

c. $\frac{22x}{21}$

d. $\frac{15}{7}$

